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PATENT & TRADEMARK OFFICE 3105 JC

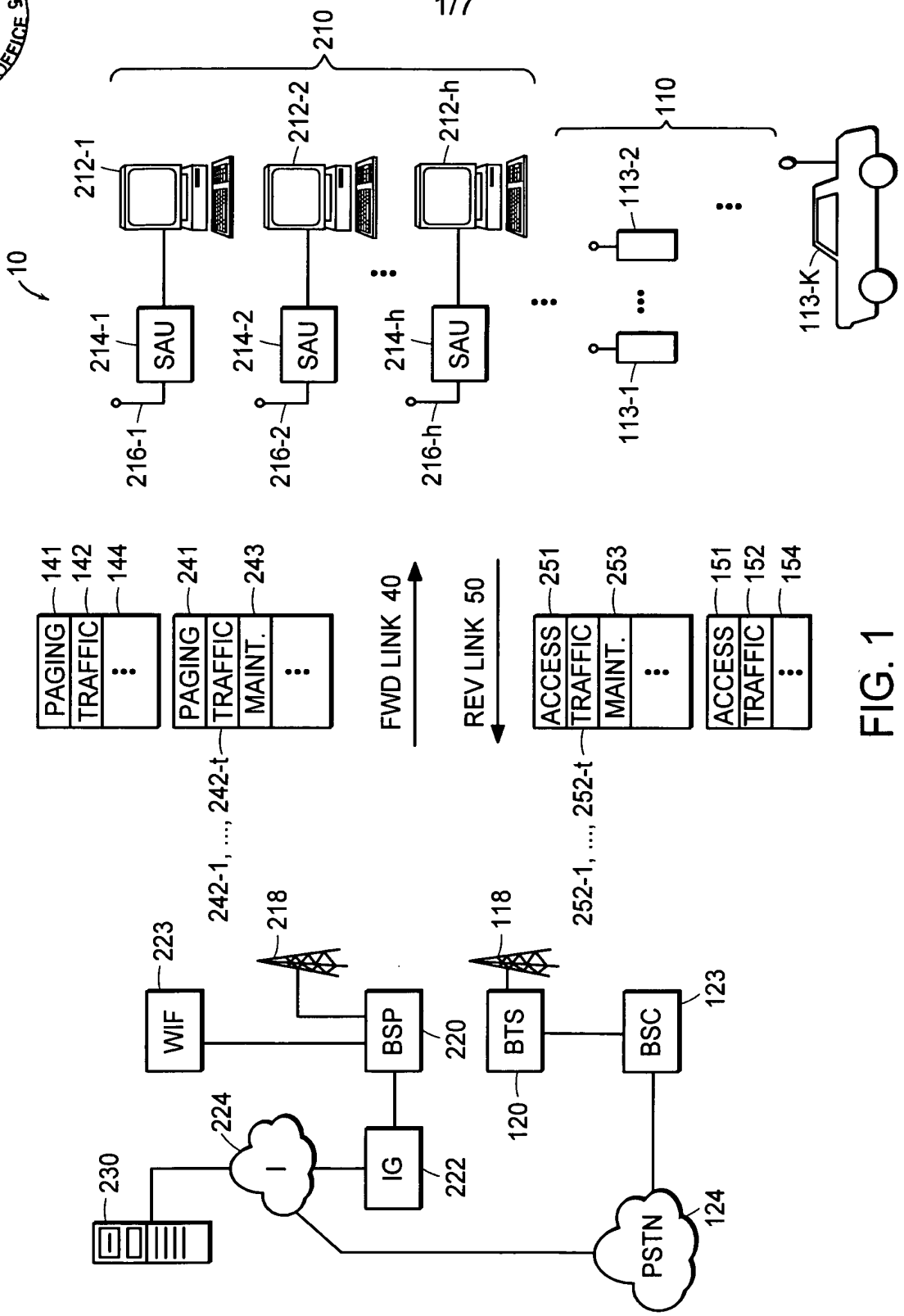


FIG. 1

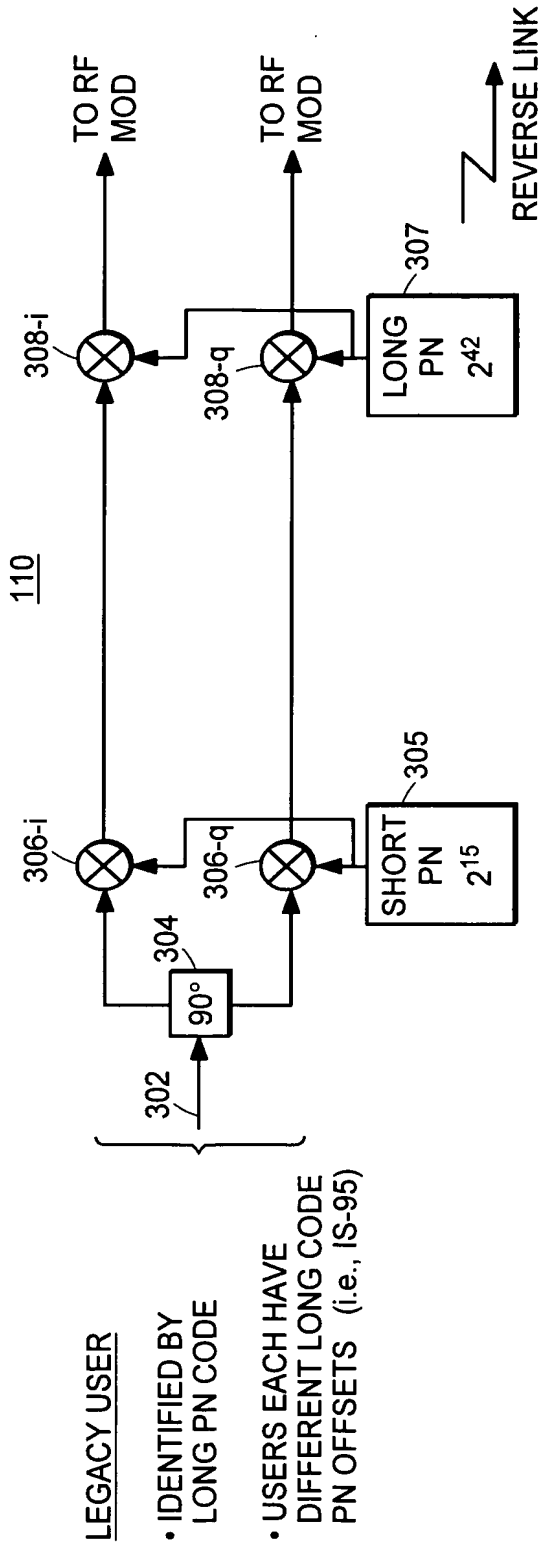

TO RF MOD
TO RF MOD
REVERSE LINK
307
LONG PN 2^{42}
308-i
308-q
110
306-i
306-q
305
SHORT PN 2^{15}
304
90°
302
LEGACY USER
• IDENTIFIED BY LONG PN CODE
• USERS EACH HAVE DIFFERENT LONG CODE PN OFFSETS (i.e., IS-95)

FIG. 2

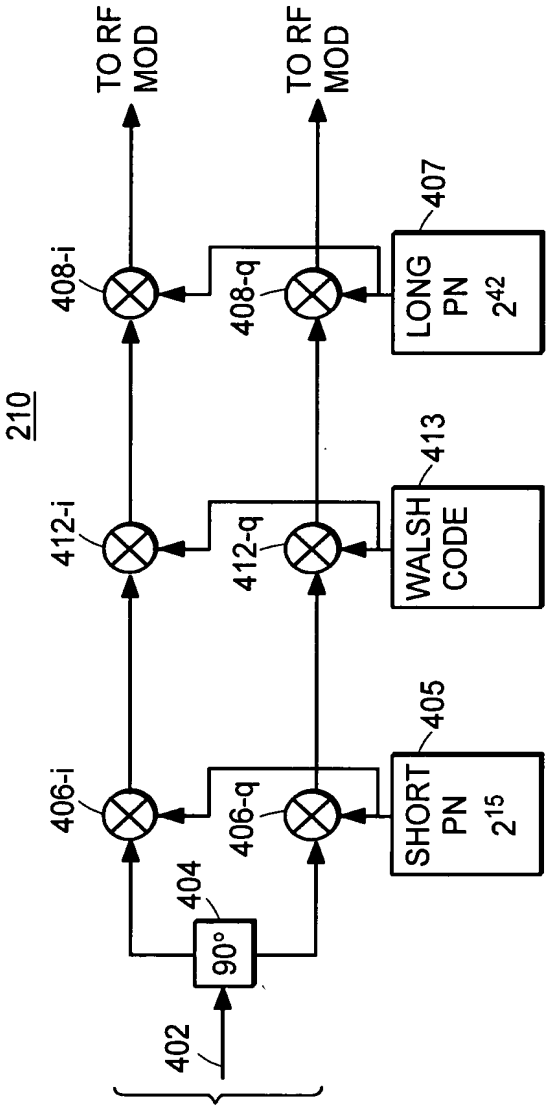

TO RF MOD
TO RF MOD
210
408-i
408-q
407
LONG PN 2^{42}
412-i
412-q
413
WALSH CODE
406-i
406-q
405
SHORT PN 2^{15}
404
90°
402
NEW USER
• IDENTIFIED BY WALSH CODE
• USES SAME PN CODE PHASE OFFSET AS OTHER NEW USERS
• WILL BE ORTHOGONAL TO OTHER NEW USERS
• WILL "LOOK LIKE" LEGACY USER TO OTHER LEGACY USERS

FIG. 3

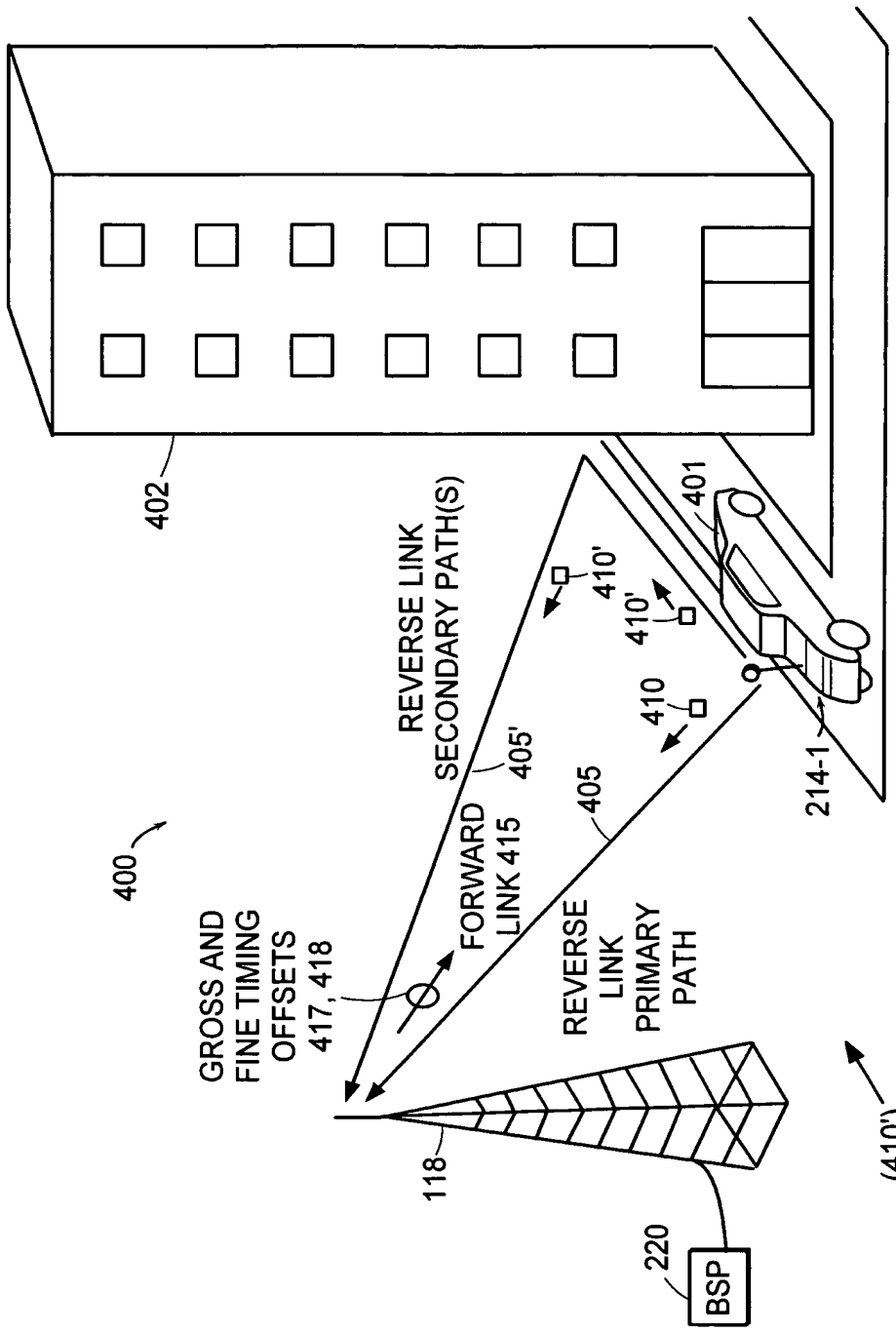

402
401
REVERSE LINK SECONDARY PATH(S)
410'
410'
410
405'
405
214-1
400
FORWARD LINK 415
GROSS AND FINE TIMING OFFSETS 417, 418
REVERSE LINK PRIMARY PATH
118
220
BSP
(410')

FIG. 4

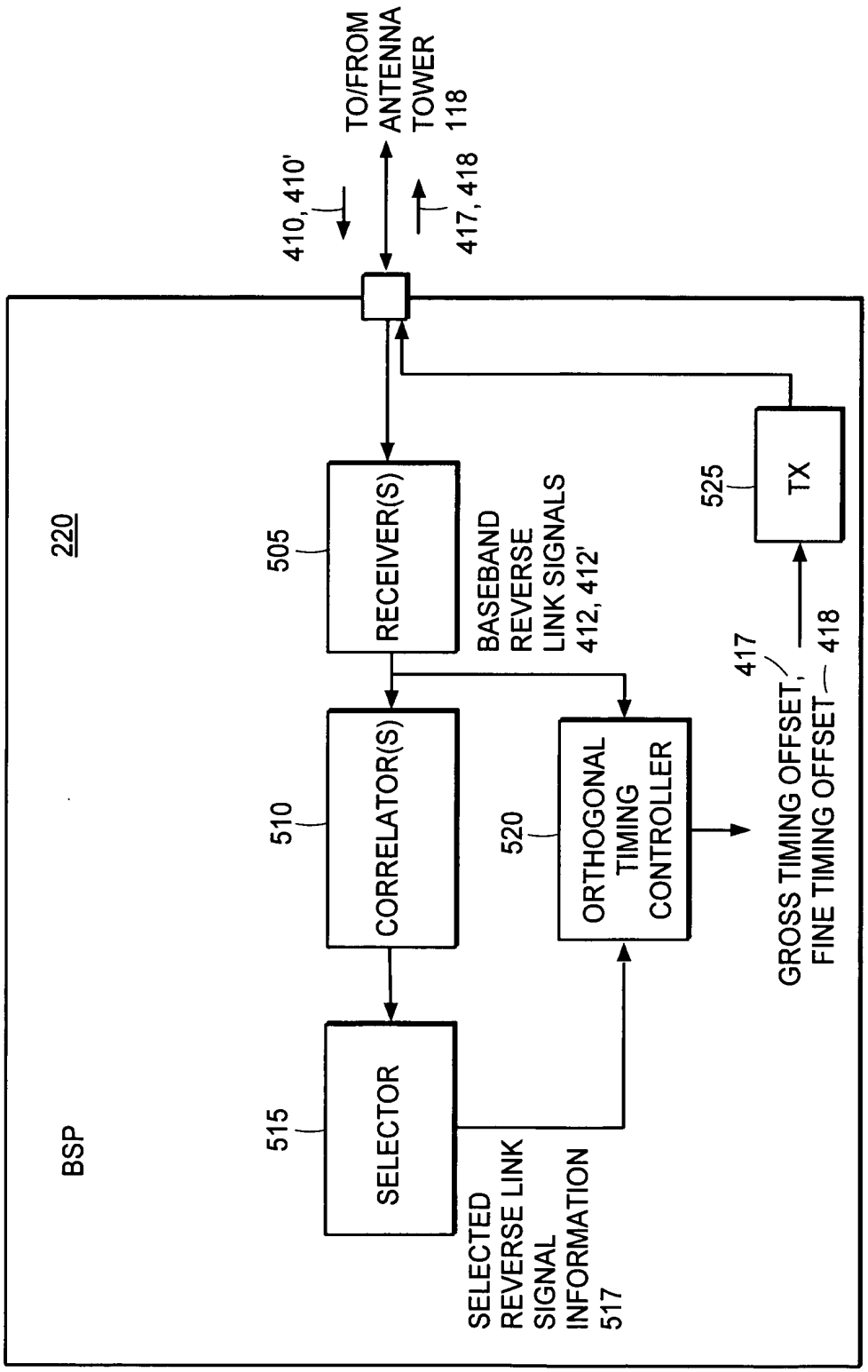

TO/FROM ANTENNA TOWER 118
410, 410'
417, 418
220
505
RECEIVER(S)
BASEBAND REVERSE LINK SIGNALS 412, 412'
525
TX
510
CORRELATOR(S)
520
ORTHOGONAL TIMING CONTROLLER
417
418
GROSS TIMING OFFSET, FINE TIMING OFFSET
515
SELECTOR
BSP
SELECTED REVERSE LINK SIGNAL INFORMATION 517

FIG. 5

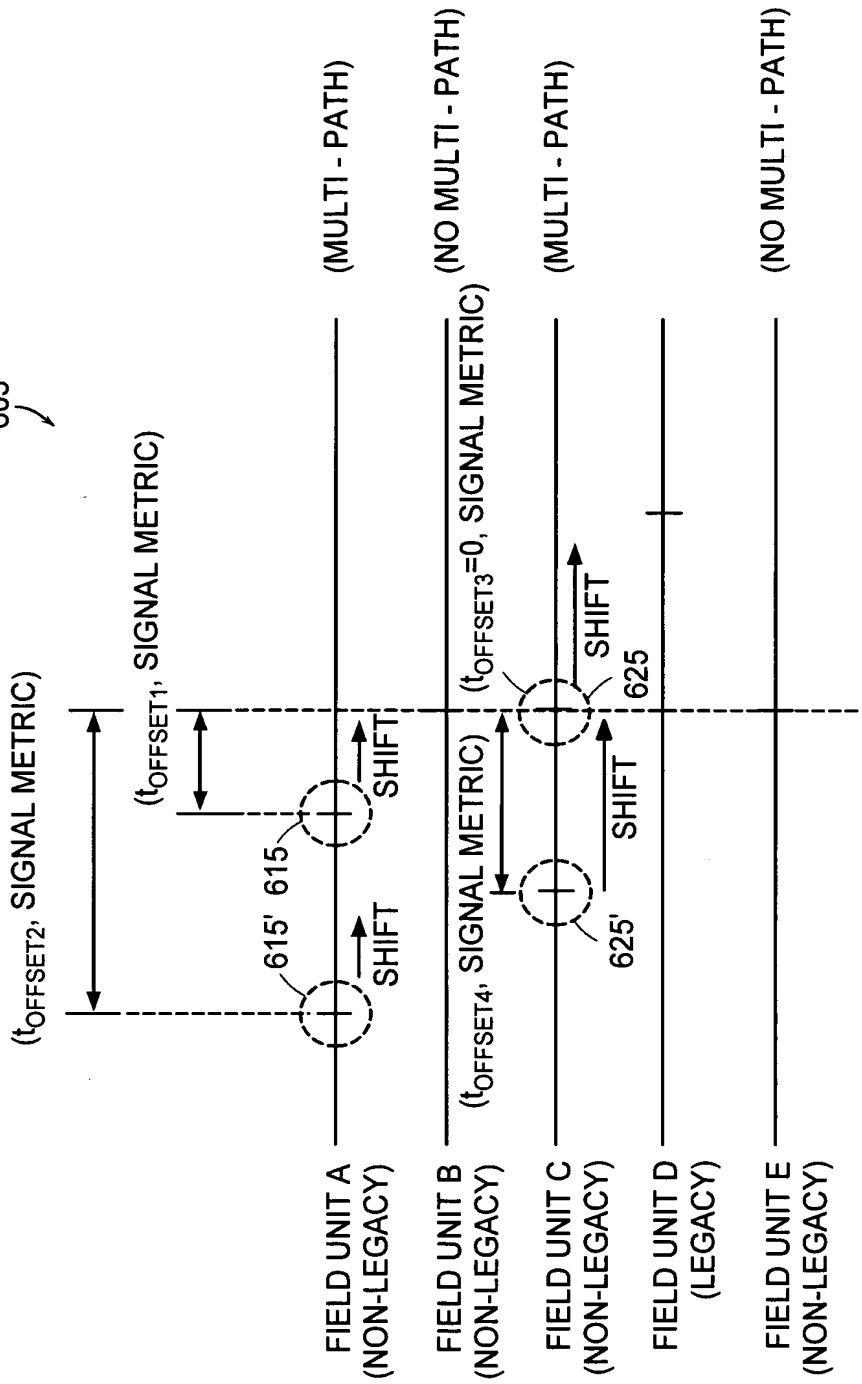
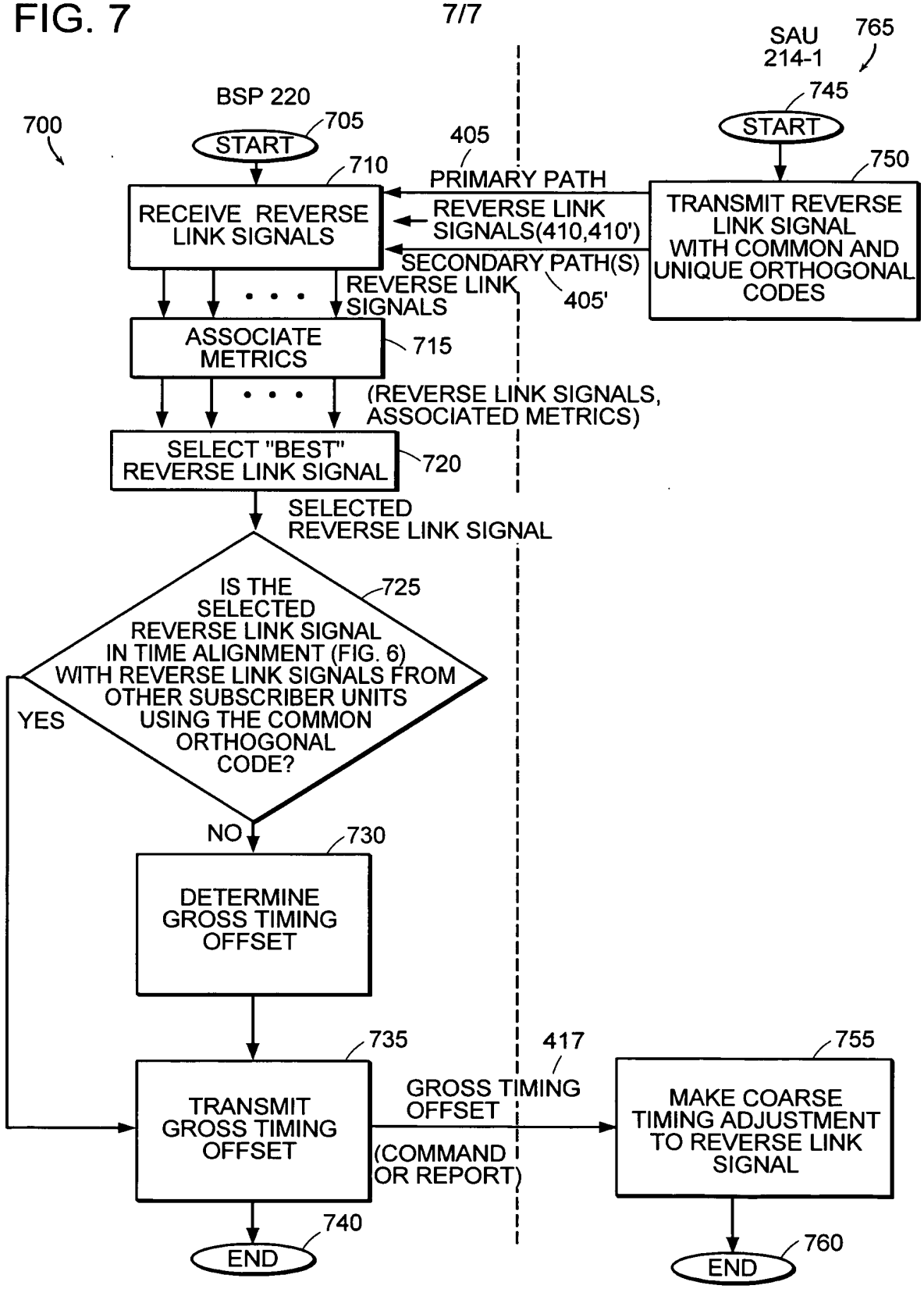

605
($t_{OFFSET2}$, SIGNAL METRIC)
($t_{OFFSET1}$, SIGNAL METRIC)
615
615'
SHIFT
SHIFT
($t_{OFFSET4}$, SIGNAL METRIC)
($t_{OFFSET3}$=0, SIGNAL METRIC)
625
625'
SHIFT
SHIFT
(MULTI - PATH)
(NO MULTI - PATH)
(MULTI - PATH)
(NO MULTI - PATH)
ORTHOGONAL ALIGNMENT 610
FIELD UNIT A (NON-LEGACY)
FIELD UNIT B (NON-LEGACY)
FIELD UNIT C (NON-LEGACY)
FIELD UNIT D (LEGACY)
FIELD UNIT E (NON-LEGACY)

FIG. 6

FIG. 7


700
BSP 220
START
705
RECEIVE REVERSE LINK SIGNALS
710
405
PRIMARY PATH
REVERSE LINK SIGNALS(410,410')
SECONDARY PATH(S)
405'
REVERSE LINK SIGNALS
ASSOCIATE METRICS
715
(REVERSE LINK SIGNALS, ASSOCIATED METRICS)
SELECT "BEST" REVERSE LINK SIGNAL
720
SELECTED REVERSE LINK SIGNAL
IS THE SELECTED REVERSE LINK SIGNAL IN TIME ALIGNMENT (FIG. 6) WITH REVERSE LINK SIGNALS FROM OTHER SUBSCRIBER UNITS USING THE COMMON ORTHOGONAL CODE?
725
YES
NO
DETERMINE GROSS TIMING OFFSET
730
TRANSMIT GROSS TIMING OFFSET
735
417
GROSS TIMING OFFSET
(COMMAND OR REPORT)
END
740
SAU 214-1
765
START
745
TRANSMIT REVERSE LINK SIGNAL WITH COMMON AND UNIQUE ORTHOGONAL CODES
750
MAKE COARSE TIMING ADJUSTMENT TO REVERSE LINK SIGNAL
755
END
760